

CHAPTER 4

Affected Environment and Environmental Consequences

The Affected Environment section for each resource describes existing conditions in the study area and includes background on the resource, definition of the study area, issues of environmental concern, and a characterization of the study area. The Environmental Consequences section provides information on the standards of significance, Western's EPMS, a description of impacts for each alternative and mitigation measures, if appropriate. The chapter concludes with discussion on cumulative impacts, unavoidable/adverse impacts, short-term use versus long-term productivity, irreversible/irretrievable commitment of resources, and growth-inducing impacts.

Issues identified through public involvement, including scoping, are an integral part of the environmental analysis. These scoping issues determine the depth and breadth of environmental analysis required for the Proposed Action and alternatives. Not all resources are treated with the same level of detail in the Draft EIS. Resources susceptible to impacts from the construction or operation of a transmission line are given full evaluation, while resource impacts that do not exist or can be easily avoided by facility location or structure placement are addressed in less detail.

Environmental resource areas for the Draft EIS include:

- Air Quality
- Biological Resources
- Cultural Resources
- Electric and Magnetic Fields
- Environmental Justice
- Floodplains
- Geology
- Health and Safety
- Land Use
- Noise
- Paleontological Resources
- Socioeconomics
- Soils
- Visual Resources
- Water Resources
- Wetlands

The Environmental Consequences section for each resource analyzes and explains the changes that can be expected from implementing the Proposed Action and alternatives,

including the No Action Alternative. This section forms the scientific and analytic basis for the Draft EIS (Chapter 40 of the *Code of Federal Regulations* [40 CFR] Part 1502.14). It consolidates the discussions on those elements described in the Purpose and Need, public participation, and alternative development and comparison sections of the Draft EIS (40 CFR Part 1502.16). SNR uses standard construction practices and has adopted EPMS to minimize impacts to the environment. Table 3-4 is a list of the EPMS appropriate to this EIS. They are an integral part of SNR's construction specifications.

Environmental impacts can be positive (beneficial) or negative (adverse) as a result of the action (direct) or as a secondary result (indirect), and can be permanent, long-lasting (long-term), or temporary (short-term). Impacts can vary in degree or magnitude from no change, or only slightly detectable change, to a total change in the environmental condition or system. This assessment identifies impacts, evaluates the standards of significance, evaluates applicable EPMS, and recommends mitigation measures if EPMS were insufficient.

To determine the levels or magnitude of potential impacts to the environment, standards of significance have been developed for each resource. They include the following guidelines:

- **Resource Sensitivity**—the probable response of a particular resource to project-related activities.
- **Resource Quantity**—the amount of the resource potentially affected. The impacted resources are quantified to determine the significance of the impact.
- **Resource Quality**—the present condition of the potentially affected resource.
- **Duration of Impact**—the period of time over which the resource would be affected, measured as short-term (up to five years or as defined by the resource section) or long-term (life of the project and beyond). The anticipated duration of some impacts define their significance.

Each alternative has been divided into segments and MPs. Various combinations of segments define the Proposed Action and alternatives, while MPs, and occasionally structure numbers, serve to locate precise points within the segments. See Figures 3-1 through 3-8 for segment locations and MP information.

4.1 AIR QUALITY

4.1.1 AFFECTED ENVIRONMENT

Air quality is regulated by Federal (U. S. Environmental Protection Agency [EPA]), state (California Regional Air Resources Board [ARB]), and local air districts. The Federal *Clean Air Act* (CAA) of 1970 established National Ambient Air Quality Standards (NAAQS) in 40 CFR Part 50. The NAAQS include both primary (protective of human health) and secondary (protective of property and natural ecosystems) standards for “criteria” pollutants such as: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulate matter less than 10 microns in diameter (PM₁₀). Based on the NAAQS, the CAA established criteria for designating the air quality in specific regions. Regions with air quality levels that exceed NAAQS are designated as “nonattainment” and regions with air quality levels that are less than or equal to NAAQS are designated as “attainment.”

Air quality designations are determined through ambient air quality monitoring and are established for each pollutant. The 1990 *Clean Air Act* Amendments (CAAA) established attainment deadlines for all areas designated as nonattainment. The state of California has adopted standards known as the California Ambient Air Quality Standards (CAAQS) that are typically more stringent than NAAQS. A comparison of Federal and state standards is presented in Table 4.1-1.

The EPA has final responsibility for ensuring that all areas of the U.S. meet, or are making progress toward meeting, the NAAQS. All states must submit State Implementation Plans (SIP) for nonattainment areas to demonstrate to the EPA that regional air quality would meet NAAQS within the required time frame. Each District prepares a portion of the SIP and EPA either approves or disapproves the SIP. Each air quality district is also responsible for establishing rules and implementation measures to regulate air quality. This is done by developing permitting systems for existing, new, and modified

Table 4.1-1. Relevant Federal and California Ambient Air Quality Standards

Pollutant	Averaging Time	California AAQS ^{a,c}	Federal AAQS ^{b,c} Primary	Federal AAQS ^{b,c} Secondary
Ozone (O ₃)	1-hour 8-hour ^d	0.09 ppm (180 µg/m ³) ----	0.12 ppm (235 µg/m ³) 0.08 ppm (157 µg/m ³)	Same as primary standard
Carbon Monoxide (CO)	8-hour 1-hour	9 ppm (10 mg/m ³) 20 ppm (23 mg/m ³)	9 ppm (10 mg/m ³) 35 ppm (40 mg/m ³)	Same as primary standard
Nitrogen Dioxide (NO ₂) ^e	Annual Average (1 hour)	---- 0.25 ppm (470 µg/m ³)	0.053 ppm (100 mg/m ³) ----	Same as primary standard
Sulfur Dioxide	Annual Average (24 hour)	---- 0.04 ppm ^f (105 µg/m ³)	0.03 ppm (80 µg/m ³) 0.14 ppm (365 µg/m ³)	---- ----
Respirable Particulate Matter (PM ₁₀)	Annual 24-hour	30 µg/m ³ 50 µg/m ³	50 µg/m ³ 150 µg/m ³	Same as primary standard
Fine Particulate Matter (PM _{2.5}) ^d	24-hour Annual (Arithmetic Mean)	No separate State standard	65 µg/m ³ 15 µg/m ³	Same as primary standard
Visibility Reducing Particulates	1 observation	See footnote g	No Federal standard	No Federal standard

Source: Original 2002

^aTitle 17, California Code of Regulations, California Ambient Air Quality Standards (CAAQS) for ozone (O₃) (as volatile organic compounds [VOCs]), carbon monoxide (CO), sulfur dioxide (SO₂) (1-hour), nitrogen dioxide (NO₂), and particulate matter equal to or less than 10 microns in diameter (PM₁₀), are values that are not to be exceeded. The visibility standard is not to be equalled or exceeded.

^b40 CFR Part 50. National Ambient Air Quality Standards (NAAQS), other than those for ozone and based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year (CY) with maximum hourly average concentrations above the standard is equal to or less than one.

^cConcentrations are expressed first in units in which they were promulgated. Equivalent units are given in parentheses and based on a reference temperature of 25 degrees Celsius (C) and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25 degrees C and a reference pressure of 760 mm of mercury; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

^dNew Federal 8-hour ozone and fine particulate matter equal to or less than 2.5 microns in diameter (PM_{2.5}) standards were promulgated by U.S. Environmental Protection Agency (EPA) on July 18, 1997. The Federal 1-hour ozone standard continues to apply in areas that violate the standard.

^eNO₂ is the compound regulated as a criteria pollutant; however, emissions are usually based on the sum of all oxides of nitrogen (NO_x).

^fApplicable at locations where the state standards for ozone and/or PM₁₀ are violated. National standards apply elsewhere.

^gsufficient amount to reduce the prevailing visibility to less than ten miles (mi) when the relative humidity is less than 70 percent. “Prevailing visibility” is defined as the greatest visibility, which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

mg/m³: milligrams per cubic meter

mm: millimeter

µg/m³: micrograms per cubic meter

stationary sources, monitoring air quality, and enforcing the rules as necessary. Important nonstationary emission sources, such as automobiles, are also regulated by the EPA.

The CAA requires Federal agencies to assure that actions conform to the approved air quality implementation plans within regions designated federally as nonattainment. The actions of Federal regulatory authorities are not allowed to

prevent a region from realizing the goals of the SIPs, namely achieving NAAQS deadlines. EPA has established “general conformity” rates. Impacts for applicable projects with emissions that exceed general conformity rates would be considered significant. The general conformity rates applicable to the Proposed Action and alternatives, measured in tons per year, are presented in Table 4.1-2. The EPA requires that projects having emissions that exceed the general conformity

Table 4.1-2. SVS Emission Thresholds of Significance

	AIR DISTRICT				
	FRAQMD	PCAPCD	SMAQMD	SJVAPCD	BAAQMD
SVS Project Air District Jurisdiction					
Proposed Action	X	X	X	X	X
Alternative 1	X	X	X	X	X
Alternative 2	X	X	X		
Alternative 3			X	X	X
No Action	X	X	X	X	X
PM₁₀					
Federal Attainment Status – PM ₁₀	Nonattainment (Moderate)	Attainment	Nonattainment (Moderate)	Nonattainment (Serious)	Unclassified
EPA General Conformity Rate – PM ₁₀ (tons/year)	100 tons/year	N/A	100 tons/year	70 tons/year	N/A
Air District Construction Significant Threshold (lbs/day)	80 lbs/day	82 lbs/day	225 lbs/day	Note a	80 lbs/day
NO_x					
Federal Attainment Status – NO _x	Nonattainment (Severe)	Nonattainment (Severe)	Nonattainment (Severe)	Nonattainment (Serious)	Nonattainment (Unclassified)
EPA General Conformity Rate – NO _x (tons/year)	25 tons/year	25 tons/year	25 tons/year	50 tons/year	100 tons/year
Air District Construction Significant Threshold (lbs/day)	25 lbs/day	82 lbs/day	85 lbs/day	55 lbs/day	80 lbs/day
VOC (ROG)					
Federal Attainment Status – VOC (ROG)	Nonattainment (Severe)	Nonattainment (Severe)	Nonattainment (Severe)	Nonattainment (Serious)	Nonattainment (Unclassified)
EPA General Conformity Rate – VOC (ROG) (tons/year)	25 tons/year	25 tons/year	25 tons/year	50 tons/year	100 tons/year
Air District Construction Significant Threshold (lbs/day)	25 lbs/day	82 lbs/day	0 lbs/day	55 lbs/day	80 lbs/day

Source: Original 2002

*Emissions not quantified. Projects complying with recommended controls deemed not significant.

BAAQMD: Bay Area Air Quality Management District

FRAQMD: Feather River Air Quality Management District

lbs/day: pounds per day

NO_x: Nitrogen oxides

PCAPCD: Placer County Air Pollution Control District

PM₁₀: particulate matter less than or equal to 10 microns in diameter

ROG: Reactive organic gas

SJVAPCD: San Joaquin Valley Unified Air Pollution Control District

SMAQMD: Sacramento Metropolitan Air Quality Management District

VOC: Volatile organic compound

rates adopt enforceable emission control measures that reduce applicable pollutant emissions to the maximum extent possible. Estimated annual emissions from the Proposed Action and alternatives would not exceed EPA general conformity rates.

Air districts are responsible to develop guidance to regulate emission sources. Each district, therefore, publishes a significant emission threshold. The Proposed Action and alternatives would transect a combination of five air districts:

- Feather River Air Quality Management District (FRAQMD)
- Placer County Air Pollution Control District (PCAPCD)
- Sacramento Metropolitan Air Quality Management District (SMAQMD)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- Bay Area Air Quality Management District (BAAQMD)

Projects with emissions of regulated pollutants that exceed district significance levels are required to control emissions to the lowest extent possible. Many air districts differentiate between construction and operational emissions, recognizing that construction emission impacts are short term and operational impacts are long term. Table 4.1-2 presents significant emission thresholds, based on maximum daily emissions, for each district that the project may be associated with.

4.1.1.1 RESOURCE STUDY AREA

Figure 4-1 shows the study area in relationship to the air districts and air basins. The study area includes five air districts: FRAQMD, SMAQMD, SJVAPCD, PCAPCD, and BAAQMD.

4.1.1.2 ISSUES OF ENVIRONMENTAL CONCERN

The primary source would be short-term pollutant emissions related to vehicle exhaust and particulates generated by soil-disturbing activities during construction and maintenance. Vehicles and internal combustion-powered equipment such as graders, excavators, dozers, scrapers, tractors, water trucks, and associated equipment would generate exhaust emissions of CO, NO_x (sums of all oxides of nitrogen), SO₂, VOCs/ROG, and PM₁₀. Earth clearing and grading and traffic on the site would also

generate PM₁₀. NO_x and PM₁₀ emissions are widely recognized as the pollutants of most concern.

4.1.1.3 CHARACTERIZATION

The study area experiences hot summers, mild winters, infrequent rainfalls, moderate breezes, and low humidity. Prevailing winds are southerly for all months except November, when the winds typically blow from the north. Topographical features, light winds, and minimal vertical mixing hinder the dispersal of air pollutants in the study area. Temperature inversions trap pollutants near the ground and commonly elevate air pollutant levels.

The entire study area is designated Federally and by the state as nonattainment for O₃ and PM₁₀. Activities in these areas would be required to meet higher emission standards for these pollutants. The study area is designated as attainment for all other regulated pollutants.

4.1.2 ENVIRONMENTAL CONSEQUENCES

4.1.2.1 STANDARDS OF SIGNIFICANCE

The Proposed Action and alternatives would have significant, adverse effects on air quality if they:

- Violate ambient air quality or emissions standards applicable to the study area,
- Expose sensitive receptors to detrimental pollution concentrations,¹
- Contribute to a collective or combined air quality effect of the Proposed Action and alternatives and foreseeable other projects that lead to violation of air quality standards, even if the individual effect of the project/activity is relatively minor compared with other sources,
- Produce air contaminants above the level of significant cancer risk, if any. The State of California defines the level of significant cancer risk as more than 10 confirmed cases per one million individuals exposed, or
- Conflict with adopted environmental plans and goals as provided in the SIP or regional air quality plan.

4.1.2.2 ENVIRONMENTAL PROTECTION MEASURES

EPMs for air resources from Table 3-4 include the following:

- All requirements of those entities having jurisdiction over air quality matters would be adhered to and any

¹ The California ARB defines sensitive receptors as “identifiable subsets of the general population that are at greater risk than the general population to the toxic effects of a specific air pollutant.” One school and one senior residence are located within 1,000 feet of a transmission line that is part of the Proposed Action and Alternative 1 —reconducting existing double-circuit, 230-kV transmission line from O’Banion Substation to Tracy Substation.

permits needed for construction activities would be obtained. Open burning of construction trash would not be allowed.

- Project participant would use reasonably practicable methods and devices to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.
- Visible emissions from diesel-powered equipment would be controlled.
- Emissions from all off-road diesel-powered equipment would not exceed 40 percent opacity for more than three minutes in any one hour.
- Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments or other inefficient operating conditions would not be operated until corrective repairs or adjustments were made.
- Vehicles and equipment used in construction and maintenance of the Proposed Action or alternatives would maintain appropriate emissions control equipment and be appropriately permitted.
- Road construction would include dust-control measures such as watering and other approved suppressing agents for limiting dust generation during construction.
- Fill material storage piles would include dust-control measures such as water or chemical suppressants.
- Ground surfaces, which have been significantly disturbed, would be seeded appropriately to prevent wind dispersion of soil.
- Removal of vegetation and ground disturbance would be limited to the minimum area necessary to complete project construction activities. Vegetative cover would be maintained on all other portions of the project area.
- Regular watering of exposed soils and unpaved access roads would be conducted during the construction period.
- Grading activities would cease during periods of high winds (greater than 25 mph averaged over one hour).
- Trucks transporting loose material would be covered or maintain at least two feet of freeboard and not create any visible dust emissions.

4.1.2.3 IMPACTS FROM PROPOSED ACTION—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION; REALIGNMENTS; RECONDUCTORING TRACY SUBSTATION TO ELVERTA SUBSTATION

Impacts to air quality from the selection of either the Proposed Action or alternatives would primarily be short-term impacts during construction and, consequently, the

following impact analysis is focused on these short-term emissions.

The Proposed Action involves new transmission, realignments, and reconductoring. Potential air impacts from new transmission, realignment, and reconductoring activities come from vehicle/equipment emissions for construction (poles, structure, and stringing), grading, site clearing, dust from traffic, digging and filling, and concrete operations. Impacts from reconductoring would be less than new transmission and realignment because fewer new structures would be built.

Western used established emission factors approved by Federal, state, and local agencies. Typical equipment use, and construction schedules were used to estimate construction emissions for the Proposed Action and alternatives. Average daily emissions, determined from the construction month having the highest emissions, were compared against each District's applicable emission significance threshold.

As shown in Table 4.1-3, maximum daily emissions for NO_x and PM_{10} would exceed significance thresholds in all air districts. Project emissions for VOCs would exceed SMAQMD and FRAQMD significant thresholds. EPA conformity rates are based on annual emissions and would not be exceeded by the Proposed Action.

While implementation of EPMs would reduce NO_x , PM_{10} , and VOC emissions, to the maximum extent practical, emissions could still exceed the threshold values. Western has adopted a proactive stance by implementing EPMs that mirror measures recommended by the air districts.

Additionally, after the completion of engineering and design plans for an approved project, Western would complete an air analysis. This analysis would be more precise because Western's assumptions would be defined. Western expects that the NO_x , PM_{10} , and VOC emissions would actually be less than the estimated emissions presented in this EIS. Emission calculations are found in Western's "Estimated Emissions for the Sacramento Area Voltage Support Environmental Impact Statement Proposed Action and Alternatives" (Western 2002a).

4.1.2.4 IMPACTS FROM ALTERNATIVE 1 —RECONDUCTORING O'BANION SUBSTATION TO TRACY SUBSTATION

Alternative 1 involves only reconductoring. Potential air impacts from reconductoring are vehicle and equipment emissions and dust from traffic. As shown in Table 4.1-4, emissions for NO_x would exceed significance thresholds in FRAQMD and SJVAPCD. Emissions for PM_{10} would exceed FRAQMD and BAAQMD significant thresholds. VOC emissions would exceed FRAQMD and SMAQMD

significant thresholds. EPA conformity rates are based on annual emissions and would not be exceeded for Alternative 1.

While implementation of EPMs would reduce NO_x, VOC, and PM₁₀ emissions to the maximum extent practical, emissions could still exceed the threshold values. Western has adopted a proactive stance by implementing EPMs that mirror measures recommended by the air districts.

4.1.2.5 IMPACTS FROM ALTERNATIVE 2—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION AND REALIGNMENTS

Alternative 2 would involve new transmission and realignments. As shown in Table 4.1-5, project emis-

sions for NO_x would exceed significance thresholds in associated air districts. Project emissions for PM₁₀ would exceed FRAQMD, SMAQMD, and PCAPCD significance thresholds. VOC emissions would exceed FRAQMD and SMAQMD significance thresholds. EPA conformity rates are based on annual emissions and would not be exceeded by Alternative 2.

While implementation of EPMs would reduce emissions to the maximum extent practical, emissions could still exceed the threshold values. Western has adopted a proactive stance by implementing EPMs that mirror measures recommended by the air districts.

Table 4.1-3. Proposed Action Emission Significance Determination

Regulated Pollutant	Estimated Maximum Daily Construction Emission (lbs/day)	FRAQMD Significant Threshold (lbs/day)	PCAPCD Significant Threshold (lbs/day)	SMAQMD Significant Threshold (lbs/day)	SJVAPCD Significant Threshold (lbs/day)	BAAQMD Significant Threshold (lbs/day)
NO _x	106	25	82	85	55	80
PM ₁₀	230	80	82	225	None ^a	80
VOC (ROG)	46	25	82	0	55	80

Source: Original 2002

^aEmissions not quantified. Projects complying with recommended controls deemed not significant.

BAAQMD: Bay Area Air Quality Management District

FRAQMD: Feather River Air Quality Management District

lbs/day: pounds per day

NO_x: Nitrogen oxides

PCAPCD: Placer County Air Pollution Control District

PM₁₀: particulate matter less than or equal to 10 microns in diameter

ROG: Reactive organic gas

SJVAPCD: San Joaquin Valley Unified Air Pollution Control District

SMAQMD: Sacramento Metropolitan Air Quality Management District

VOC: Volatile organic compound

Table 4.1-4. Alternative 1 Emission Significance Determination

Regulated Pollutant	Estimated Maximum Daily Construction Emission (lbs/day)	FRAQMD Significant Threshold (lb/day)	SMAQMD Significant Threshold (lb/day)	SJVAPCD Significant Threshold (lb/day)	BAAQMD Significant Threshold (lb/day)
NO _x	76	25	85	55	80
PM ₁₀	99	80	225	None ^a	80
VOC (ROG)	32	25	0	55	80

Source: Original 2002

^aEmissions not quantified. Projects complying with recommended controls deemed not significant.

BAAQMD: Bay Area Air Quality Management District

FRAQMD: Feather River Air Quality Management District

lbs/day: pounds per day

NO_x: Nitrogen oxides

PM₁₀: particulate matter less than or equal to 10 microns in diameter

ROG: Reactive organic gas

SJVAPCD: San Joaquin Valley Unified Air Pollution Control District

SMAQMD: Sacramento Metropolitan Air Quality Management District

VOC: Volatile organic compound

4.1.2.6 IMPACTS FROM ALTERNATIVE 3— NEW TRANSMISSION ELK GROVE SUBSTATION TO TRACY SUBSTATION

Alternative 3 involves only new transmission construction. As shown in Table 4.1-6, emissions for NO_x would slightly exceed significance thresholds in all air districts. PM₁₀ emissions would exceed significant thresholds in BAAQMD. VOC emissions would exceed significant thresholds in SMAQMD. EPA conformity rates are based on annual emissions, and would not be exceeded by Alternative 3.

While implementation of EPMs would reduce emissions to the maximum extent practical, emissions could still exceed the threshold values. Western has adopted a proactive stance by implementing EPMs that mirror measures recommended by the air districts.

4.1.2.7 IMPACTS FROM THE NO ACTION ALTERNATIVE

Transmission lines would not be constructed, recondotored, or realigned under the No Action Alternative. Therefore, air emissions would not increase and there would be no significant impacts.

Table 4.1-5. Alternative 2 Emission Significance Determination

Regulated Pollutant	Estimated Maximum Daily Construction Emission (lbs/day)	FRAQMD Significant Threshold (lb/day)	PCAPCD Significant Threshold (lb/day)	SMAQMD Significant Threshold (lb/day)
NO _x	106	25	82	85
PM ₁₀	230	80	82	225
VOC (ROG)	46	25	82	0

Source: Original 2002

^aEmissions not quantified. Projects complying with recommended controls deemed not significant.

FRAQMD: Feather River Air Quality Management District

lbs/day: pounds per day

NO_x: Nitrogen oxides

PCAPCD: Placer County Air Pollution Control District

PM₁₀: particulate matter less than or equal to 10 microns in diameter

ROG: Reactive organic gas

SMAQMD: Sacramento Metropolitan Air Quality Management District

VOC: Volatile organic compound

Table 4.1-6. Alternative 3 Emission Significance Determination

Regulated Pollutant	Estimated Maximum Daily Construction Emission (lbs/day)	SMAQMD Significant Threshold (lb/day)	SJVAPCD Significant Threshold (lb/day)	BAAQMD Significant Threshold (lb/day)
NO _x	86	85	55	80
PM ₁₀	186	225	None ^a	80
VOC (ROG)	37	0	55	80

Source: Original 2002

^aEmissions not quantified. Projects complying with recommended controls deemed not significant.

BAAQMD: Bay Area Air Quality Management District

lbs/day: pounds per day

NO_x: Nitrogen oxides

PM₁₀: particulate matter less than or equal to 10 microns in diameter

ROG: Reactive organic gas

SJVAPCD: San Joaquin Valley Unified Air Pollution Control District

SMAQMD: Sacramento Metropolitan Air Quality Management District

VOC: Volatile organic compound